Kofax RPA
Upgrade Guide

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KOFAX

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Preface

This guide is intended for system administrators who upgrade the existing installation of Kofax RPA to a newer version in the enterprise environment.

Related Documentation

The documentation set for Kofax RPA is available here:[1]

https://docshield.kofax.com/Portal/Products/RPA/11.4.0-vcsft2fhaw/RPA.htm

In addition to this guide, the documentation set includes the following items:

Kofax RPA Release Notes
Contains late-breaking details and other information that is not available in your other Kofax RPA documentation.

Kofax RPA Technical Specifications
Contains information on supported operating systems and other system requirements.

Kofax RPA Installation Guide
Contains instructions on installing Kofax RPA and its components in a development environment.

Kofax RPA Administrator's Guide
Describes administrative and management tasks in Kofax RPA.

Kofax RPA Help
Describes how to use Kofax RPA. The Help is also available in PDF format and known as *Kofax RPA User's Guide*.

Kofax RPA Best Practices Guide for Robot Lifecycle Management
Offers recommended methods and techniques to help you optimize performance and ensure success while using Robot Lifecycle Management in your Kofax RPA environment.

Kofax RPA Getting Started with Robot Building Guide
Provides a tutorial that walks you through the process of using Kofax RPA to build a robot.

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[1] You must be connected to the Internet to access the full documentation set online. For access without an Internet connection, see the *Installation Guide*.

Kofax RPA Getting Started with Document Transformation Guide

Provides a tutorial that explains how to use Document Transformation functionality in a Kofax RPA environment, including OCR, extraction, field formatting, and validation.

Kofax RPA Developer's Guide
Contains information on the API that is used to execute robots on RoboServer.

Kofax RPA Desktop Automation Service Configuration Guide
Describes how to configure the Desktop Automation Service required to use Desktop Automation on a remote computer.

Kofax RPA Application Programming Interface documentation

Contains information about the Kofax RPA Java API and the Kofax RPA .NET API, which provide programmatic access to the Kofax RPA product. The Java API documentation is available from both the online and offline Kofax RPA documentation, while the .NET API documentation is available only offline.

> ⓘ The Kofax RPA APIs include extensive references to RoboSuite, the original product name. The RoboSuite name is preserved in the APIs to ensure backward compatibility. In the context of the API documentation, the term RoboSuite has the same meaning as Kofax RPA.

Training

Kofax offers both classroom and computer-based training to help you make the most of your Kofax RPA solution. Visit the Kofax Education Portal at https://learn.kofax.com/ for details about the available training options and schedules.

Also, you can visit the Kofax Intelligent Automation SmartHub at https://smarthub.kofax.com/ to explore additional solutions, robots, connectors, and more.

Getting help with Kofax products

The Kofax Knowledge Base repository contains articles that are updated on a regular basis to keep you informed about Kofax products. We encourage you to use the Knowledge Base to obtain answers to your product questions.

To access the Kofax Knowledge Base:

1. Go to the Kofax website home page and select **Support**.

2. When the Support page appears, select **Customer Support > Knowledge Base**.

> ℹ The Kofax Knowledge Base is optimized for use with Google Chrome, Mozilla Firefox or Microsoft Edge.

The Kofax Knowledge Base provides:

- Powerful search capabilities to help you quickly locate the information you need.

  Type your search terms or phrase into the **Search** box, and then click the search icon.

- Product information, configuration details and documentation, including release news.

  Scroll through the Kofax Knowledge Base home page to locate a product family. Then click a product family name to view a list of related articles. Please note that some product families require a valid Kofax Portal login to view related articles.

From the Knowledge Base home page, you can:

- Access the Kofax Community (for all customers).

  Click the **Community** link at the top of the page.

- Access the Kofax Customer Portal (for eligible customers).

  Click the **Support** link at the top of the page. When the Customer & Partner Portals Overview appears, click **Log in to the Customer Portal**.

- Access the Kofax Partner Portal (for eligible partners).

  Click the **Support** link at the top of the page. When the Customer & Partner Portals Overview appears, click **Log in to the Partner Portal**.

- Access Kofax support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.

  Go to the **General Support** section, click **Support Details**, and then select the appropriate tab.

Kofax RPA Easy Upgrade Essentials

This chapter includes best practices and important information about how to perform an upgrade to Kofax RPA 11.4.0 from an earlier version of the product.

Kofax RPA Easy Upgrade helps you keep your RPA installation up-to-date. The latest version of RPA brings in bug fixes, new features, and security patches to help protect your data and you as its user. Upgrading RPA does not interrupt your every day work and your current robots can run in the latest version of RPA without any editing.

To ensure a successful transition to a new version of Kofax RPA, we highly recommend that you install it alongside your existing version of the product on the same computer. This approach gives you the ability to acquaint yourself with the new product features, while continuing to use the earlier version for a period of time to perform your daily work. You can import to and run your robots in a new version of the Management Console. While using both versions in parallel, you can open and test the default project from the earlier version in Design Studio 11.4.0. Note that if you save the default project in version 11.4.0, it can no longer be opened with the earlier version of Design Studio.

Easy Upgrade steps

1. Back up your Management Console configuration.
2. Install a new version of the Management Console using new database instances. Restore your Management Console configuration using a backup if necessary and connect your current RoboServers to it.

   You can pause at this step and take your time to acquaint yourself with the new version of Kofax RPA while your robots run in the latest version of the Management Console.
3. Create a new cluster.
4. Upgrade the RoboServer service and other services, such as Document Transformation and Desktop Automation.
5. Move projects to the upgraded cluster
6. Remove the old cluster

> 🛑 If you use the API in your Kofax RPA environment, the Java and .NET files must be updated when upgrading Kofax RPA. The new API files are located in the API folder of your Kofax RPA installation folder, such as `C:\Program Files\Kofax RPA 11.4.0.0\API`.

This chapter consists of the following topics.

General upgrade guidelines
Read the General Upgrade Guidelines topic to learn how to best handle upgrading from one major or minor version to another.

Upgrade a RoboServer service installation
Read the Upgrade a RoboServer Service Installation topic if you are upgrading to a newer version of a RoboServer service.

Upgrade Document Transformation Service
Read the Upgrade Document Transformation Service topic if you are upgrading to a newer version of Document Transformation Service.

Automatic Desktop Automation Service upgrade
Read the Automatic Desktop Automation Service upgrade topic to update the Desktop Automation Sevice.

Upgrade Kofax Analytics for RPA
Read Upgrade Kofax Analytics for RPA if you are upgrading Kofax Analytics for RPA.

Upgrade Process Discovery
Read the Process Discovery Upgrade Notes topic to upgrade your copy of Process Discovery.

Upgrade from Assisted Entry to Manual Entry
Read the Upgrade From Assisted Entry to Manual Entry topic if you are upgrading from Kofax RPA10.3.0 or earlier and your existing robots use the Call SOAP Web Service step in Assisted Entry mode.

Enable dynamic license distribution mode
In Dynamic license distribution mode, RoboServers receive the licenses from the cluster per request. Read the Enable Dynamic License Distribution Mode topic to switch on the Dynamic license distribution mode.

Upgrade from earlier versions

If you are upgrading from version earlier than 10.x, consult Kofax Support for upgrade guidelines.

If you are upgrading from any versions between 10.3 to 10.3.0.9 , trigger mappings are not restored with the backup. Use the solution provided at:

https://knowledge.kofax.com/Robotic_Process_Automation/Troubleshooting/
Trigger_Mappings_are_not_restored_with_Management_Console_backup

General Upgrade Guidelines

This section explains how to perform an upgrade from one major or minor product version to another. Although the examples are based on an upgrade from version 11.0 to 11.1, much of the information applies to an upgrade from any 10.x version to a 11.x version. fix packs are accumulative, and typically if you are upgrading within the same major release, for example, from 11.3.1 to 11.3.4, the upgrade is simpler than when you are upgrading from one major release to another, such as from 11.3.0 to 11.4.0.

> ⓘ The process for adding a service pack or fix pack to your installation may require fewer steps. For more information, refer directly to your service pack or fix pack documentation.

We always recommend testing and validating your business-critical robots when upgrading Kofax RPA. In this topic, we are presenting a method to upgrade your production system when robots are deployed.

Although Kofax is always committed to making Kofax RPA backward compatible with your already defined robots, types, snippets, mappings, and the like, it is always a good practice to validate your robots in a test environment before upgrading your production system. A new version of Kofax RPA may introduce subtle changes to robot language semantics, timing, website, and automation API compatibility. In turn, it could lead to unwanted behavior of your robots. Some changes may be due to third-party library updates required to ensure security, or to software enhancements and revisions.

> ⓘ Do not reuse Management Console configuration, scheduler, cluster, and log databases from a previous major release of Kofax RPA with a new major release. It may lead to errors. When upgrading within the same major release, reusing databases is acceptable unless otherwise specified in the FixPack Readme.
>
> If you use Oracle database for collecting analytics data in Kofax RPA and specify the same database while upgrading to a new version, you must manually drop and create tables in the database. See the "RoboServer log database" and "Scripts for Creating Database Tables" topics in *Kofax RPA Help* for details on creating database tables.

To mitigate the transition from one version of Kofax RPA to the next, Kofax RPA allows you to run RoboServers for different versions in parallel in the same installation environment for a period of time. That way, you can continue to use the existing version to run robots in a production environment, while validating them in parallel within a test environment. Once you are satisfied and confident with the results in the newer test environment, you can transition to the new version for use in production.

Start by upgrading only the Management Console

Upgrading the Management Console without upgrading the RoboServers means getting the newest features from the Management Console and then adding RoboServers and Desktop Automation Services with the newest version into clusters at a later time.

In our example, we are upgrading from Kofax RPA 11.0 to Kofax RPA 11.1 and have two RoboServers running. In the **Management Console** > **Admin** > **RoboServers** section, notice how the 11.0 RoboServers are successfully connected from the newly upgraded Management Console.

If you look at your Desktop Automation Services in the **Admin** > **Devices** section, you can see how those are also seamlessly connected to the 11.1 Management Console.

> ℹ️ If you want to restore your Management Console configuration using a backup, first set up a new version of the Management Console with all new databases and then restore the Management Console configuration from a backup.

Create a new cluster

Next step is to create a new cluster to place upgraded RoboServers and Desktop Automation Services to.

In our example, we have created a new cluster named **Production110** for placing upgraded RoboServers. We have also upgraded one of the RoboServers and placed it in this cluster.

Likewise, we have upgraded one of the Desktop Automation Services to match the RoboServer version and placed it into this cluster.

ⓘ If you set up a newer version environment and want to run older robots that use KCU licensing in a newer RoboServer (for example, you want to add a 10.3.2.2 RoboServer to a Management Console 11.2 environment), create a new cluster in the new Management Console and place the older RoboServer node into that cluster. See Create New Cluster in the "RoboServers" topic in Help for Kofax RPA.

If you upgrade to a newer version of Kofax RPA using a backup, the RoboServer threshold version is not updated automatically. To ensure the robots can run, navigate to **Cluster settings** > **General** > **Threshold version** and manually specify the RoboServer threshold version.

Move projects to the upgraded cluster

When a project has been validated to work on the newest version, it can be moved to the new cluster. This action requires changing the cluster related to schedules in the project as in the following screen shot.

Schedules

In the validated project, navigate to **Schedules** and click **Edit** from the ⋮ context menu for schedules. On the **Basic** tab, scroll down to the **Run on cluster** setting.
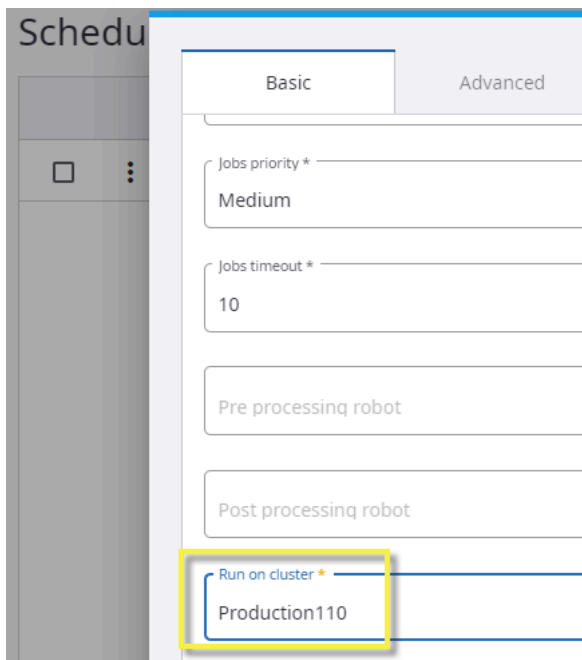
Services

Moving to a new cluster also requires changing the service cluster for REST and SOAP services. Navigate to **Admin** > **Projects**, click **Edit** from the ⋮ context menu for your project, and then select the **Services** tab. On the **Service Cluster** list, select the new cluster.

Remove the old cluster

When all your projects have been validated to run on the newest version and all RoboServers and Desktop Automation Services have been upgraded and placed into the new cluster, you can now delete the old cluster.

Important

While a project is running on a cluster with RoboServers from a previous version, your robots can only be edited with the previous version of Design Studio. As soon as a robot is opened and saved with a newer version of Design Studio, it is migrated to the format of the newest version (you can see the version/format of a robot by looking at it in the repository of your Management Console).

A robot in the repository reveals its version.

If a robot has been edited with the newest version of Design Studio, you can no longer run the robot with previous versions of the RoboServer. So, if you want to change the robot, you need to either edit it with the older version of Design Studio or validate it (and other robots in the same project) to work on the newest RoboServer and bump the entire project to the upgraded cluster.

Also, if you attempt to mix RoboServers from different versions into the same cluster, the robots may switch from one version to another when they are run.

Keep your projects small

For this method of upgrading to work more efficiently, always try to keep your projects small.

Upgrade a RoboServer Service Installation

This section provides details about how to upgrade a RoboServer service.

Perform the following steps to upgrade your Linux installation of Kofax RPA.

1. Stop the RoboServer manually and wait for robots to finish executing (optional).

2. Update the packages.

3. Change the configuration in the new `roboserver.settings` file (optional).

4. Restart the computer or use `RoboServerService start` command to restart the RoboServer.

Note the following when upgrading Kofax RPA on Linux:

- Upgrading a package replaces all the files in the `/opt/Kofax RPA/` directory.
- When you start the upgrade procedure, the `init.d` service is stopped and replaced with a new version. The service is stopped immediately without waiting for robots to finish executing. If you do not want to interrupt the execution of the robots, stop the RoboServer manually before upgrading.
- A new `roboserver.settings` file is created for the new service. The new file is created in `/home/Kofax RPA/.Kofax RPA/<release_version>/Configuration/` similarly to the old one. That means a new directory is created for the new release so that the old configuration file remains intact in the folder with the older release name. The link to the configuration file in `/etc/opt/Kofax RPA/RoboServer.conf` points to the settings file in the last installed release.
- The configuration from the old `roboserver.settings` file is not transferred to the new one, this must be done manually.

Upgrade Document Transformation Service

To upgrade the Document Transformation Service, you need to perform the following actions:

- Upgrade the program files and installed IIS services (Kofax RPA Document Transformation Service and Kofax RPA Document Transformation Client). Upgrading the program files is only required if they reside on the same computer where the Document Transformation Service is running. By default, the program files are located in `C:\Program Files\Kofax DTS`.
- Move created data such as projects, custom configurations, and so on.

Before upgrading, create a backup of your Document Transformation folder, including projects, Online Learning files, and any custom configuration such as adjustments to `Web.config` files. By default, the folder is located on the C drive (`C:\Document Transformation`). When upgrading, it is important that you consider the following details:

- Existing batches that are waiting for validation may not work with the newer version. Finish processing all existing batches before you start the upgrade. Otherwise, batches waiting for validation may not be processed successfully after the upgrade.
- Remove the existing program files and IIS services. To remove the program files, uninstall Kofax RPA Document Transformation through the Windows Control Panel. If the EnableDocumentTransformationWindows scripts were used to create the IIS services, remove the created IIS Application Pools, websites, and the installed Document Transformation Service folder.

ⓘ Uninstalling may fail to stop the Document Transformation Service Scheduler. Manually stop the Scheduler before uninstalling Kofax RPA Document Transformation.

After removing the program files and services, you can use the Document Transformation Service installer for the newer version. Afterward, use the applicable EnableDocumentTransformationWindows script to install the new services.

- Manually reapply any custom configuration to the services. Do not copy and paste the older configuration files as they may not be compatible with the services.
- Manually reapply any custom configuration to the built-in standard projects. Otherwise, you can give the older projects new names to continue using them in the newer version.

Automatic Desktop Automation Service upgrade

Starting from version 10.7, new Desktop Automation Service version packages are installed automatically if the **Lock package** option is not selected on the **Windows** tab of the Desktop Automation Service window. The first time a newer version Management Console (or Design Studio if a direct connection is used) tries to connect to the Desktop Automation Service, a new service version package is installed. The packages in ZIP files are installed to `C:\ProgramData\Kofax RPA` on the automated computer. The appropriate package is selected automatically depending on the Kofax RPA component version. For details, see "Windows tab options" in the "Configure Desktop Automation Service" topic in *Kofax RPA Help* or in the *Desktop Automation Service Configuration Guide*.

Automatic Desktop Automation Service upgrade is supported by Kofax RPA version 10.2 and later. Version 10.7 and later support this mode immediately after installation. To use automatic service upgrade in versions 10.2 to 10.6, update your copy of Kofax RPA to at least one of the following versions:

```
10.2.0.8
10.3.0.9
10.3.1.2
10.3.2.6
10.4.0.4
10.5.0.2
10.6.0.3
```

Upgrade Kofax Analytics for RPA

Kofax Analytics for RPA 2.7 is designed to use Kofax Insight 6.5. The RPA views in the Kofax Analytics for RPA 2.7 have changed, but you can use the analytics and log databases from the previous version of Kofax RPA.

The Process Discovery views have changed and can only work with the data collected and analyzed by the Process Discovery in Kofax RPA 11.4.0.

For Kofax Insight upgrade, see the "Upgrade Insight" chapter in the *Kofax Insight Installation Guide*. You can also consult Kofax support before performing an upgrade.

Process Discovery Upgrade Notes

Note the following when upgrading to the latest version of Process Discovery.

General Process Discovery upgrade notes

- Agents and Analyzer of the previous version are removed when you upgrade to a new version of Process Discovery.
- After upgrading to a new version of Process Discovery, Agent and Analyzer configuration is overwritten.
- For mass agent upgrade, use silent installation of Process Discovery Agents, as described in the Deploy Process Discovery Agents section of the *Kofax RPA Administrator's Guide*.
- You can restore Process Discovery Group configuration using Management Console backup. See Back Up Management Console in the Kofax RPA Help.

Notes on upgrading Process Discovery Analyzer

- Agent database must match the version of the Analyzer.
- Analyzer database must match the version of the Analyzer.

Upgrade From Assisted Entry to Manual Entry

Since version 10.3.0.1 the Call SOAP Web Service step does not support Assisted Entry mode. If you are upgrading from an earlier version of Kofax RPA, update the step as described below.

1. Open the robot in an earlier version of Design Studio, for example 10.3.0.0. Create a copy of the robot to ensure that you have a backup and because it is easier to upgrade. In the following steps we will update the step in the copy of the original robot.

2. Open the copy of the robot in Design Studio, execute it to the **Call SOAP Web Service** step, and change the entry mode to **Manual Entry**.

3. Switch to the original robot. Execute to the **Call SOAP Web Service** step. Open the **Browser Tracer** from the **Tools** menu or by pressing F12. In the **Browser Tracer** click the red button to start trace recording.

4. Execute the **Call SOAP Web Service** step by clicking the step after it.

5. If the original step has a specified **Web Service URL**, copy it from the step in the original robot to the step in the updated robot. Otherwise, select the original robot in the editor to ensure that what you see in the Browser Tracer is for that robot. In the Browser Tracer, click the single HTTP event entry, copy the URL, and paste to the **Web Service URL** property of the updated step.

6. In the Browser Tracer, click the single HTTP event entry and find the header property called **SOAPAction** on the Request tab. The Browser Tracer should look similar to the following example:
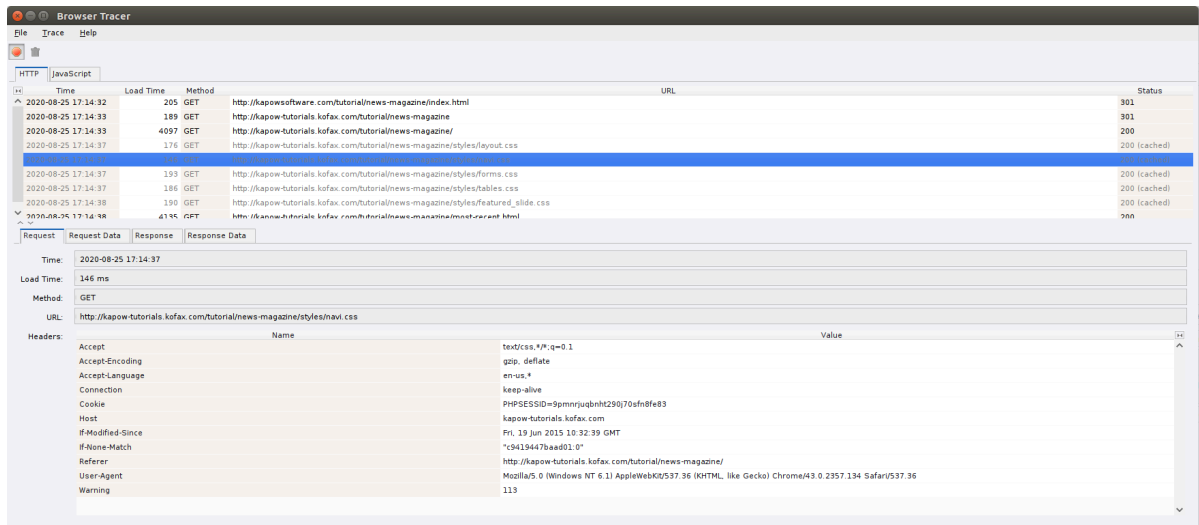
Copy the value of the **SOAPAction** header, switch to the updated robot and paste it to the property called **SOAP Action**. To copy the value, double-click the header in the list and copy its value from the **Show HTTP Header** dialog box.

7. In the Browser Tracer, find the event again, click the Request Data tab, copy the entire text of the request, and paste it to the **SOAP Request** property of the updated step.

8. Ensure that the updated step uses the correct SOAP version by looking at the WSDL file used by the original step. If this WSDL file uses the namespace `http://schemas.xmlsoap.org/wsdl/soap/`, the version is 1.1. If it uses the namespace `http://schemas.xmlsoap.org/wsdl/soap12/`, the version is 1.2.

9. Make sure that **Output**, **Options**, and other properties on the updated step have the same value as on the original one.

10. Test the updated robot, save it. Open it in Kofax RPA 10.4.0 and test it.

11. All the previous steps assumed that parameter values in the step are static, that is, do not depend on variables. If parameter values in your step are taken from variables, create the value of the **SOAP Request** property using an expression instead of a static value.

    Start by taking a copy of the request. Change the option from **XML** to **XML from Expression** and paste the request into the **Expression** text field. This will produce an expression with an error. You fix this by surrounding it with >> and <<.

Dynamic property values

All the previous steps assumed that parameter values in the step are static, which means they are hardcoded and do not change during the execution of the robot. If parameter values in your step are taken from variables, create a value of the **SOAP Request** property using an expression instead of a static value.

Start by making a copy of the request. Change the option from **XML** to **XML from Expression** and paste the request into the **Expression** text field. This should produce an expression with an error. Fix it by surrounding the request with double greater than and less than signs (>> <<).

For instance, if the value of the parameter `zipCodeList` is taken from a variable that is also called `zipCodeList`, the SOAP Request surrounded by >> << should look as follows (some details are left out).

```
>><?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope ...>
  <soapenv:Body>
    <ns1:LatLonListZipCode ...>
      <zipCodeList xsi:type="xsd:string">90210</zipCodeList>
    </ns1:LatLonListZipCode>
  </soapenv:Body>
</soapenv:Envelope><<
```

The value of the `zipCodeList` parameter in the example is static and equals `90210`. To use the value of the `zipCodeList` variable instead of the hardcoded value, replace the actual value of the parameter with the variable name in the following format:

```
<< + zipCodeList + >>
```

The code example looks like the following:

```
>><?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope ...>
  <soapenv:Body>
    <ns1:LatLonListZipCode ...>
      <zipCodeList xsi:type="xsd:string"><< + zipCodeList + >></zipCodeList>
    </ns1:LatLonListZipCode>
  </soapenv:Body>
</soapenv:Envelope><<
```

Continue this process to replace all parameters with variables.

If a parameter depends on an expression and not just a variable, use that expression instead of the variable. For example, if a parameter depends on the expression $x+1$, replace the value with:

```
<< + (x+1) + >>
```

Enable Dynamic License Distribution Mode

In the Dynamic license distribution mode, RoboServers receive the license units from the cluster per request. A RoboServer can get as many license units as it requests if they are available. In this mode, RoboServers communicate only with the Management Console and block other requests, such as API calls.

> ℹ In the Dynamic license distribution mode, license units are distributed automatically. This overrides the `licenseLimit` parameter.

Dynamic license distribution mode is supported by Kofax RPA version 10.3 and later. Version 10.7 and later support this mode immediately after installation. To use dynamic license distribution, in versions 10.3 to 10.6, update your copy of Kofax RPA to at least one of the following versions:

```
10.2.0.8
10.3.0.9
10.3.1.2
10.3.2.6
10.4.0.4
10.5.0.2
```

```
10.6.0.3
```

ⓘ If you change the license distribution mode from Static to Dynamic for RoboServers that do not support this mode, those RoboServers disappear from the RoboServers section in the Management Console. To see the missing RoboServers in the Management Console, change the mode to Static and restart the Management Console.